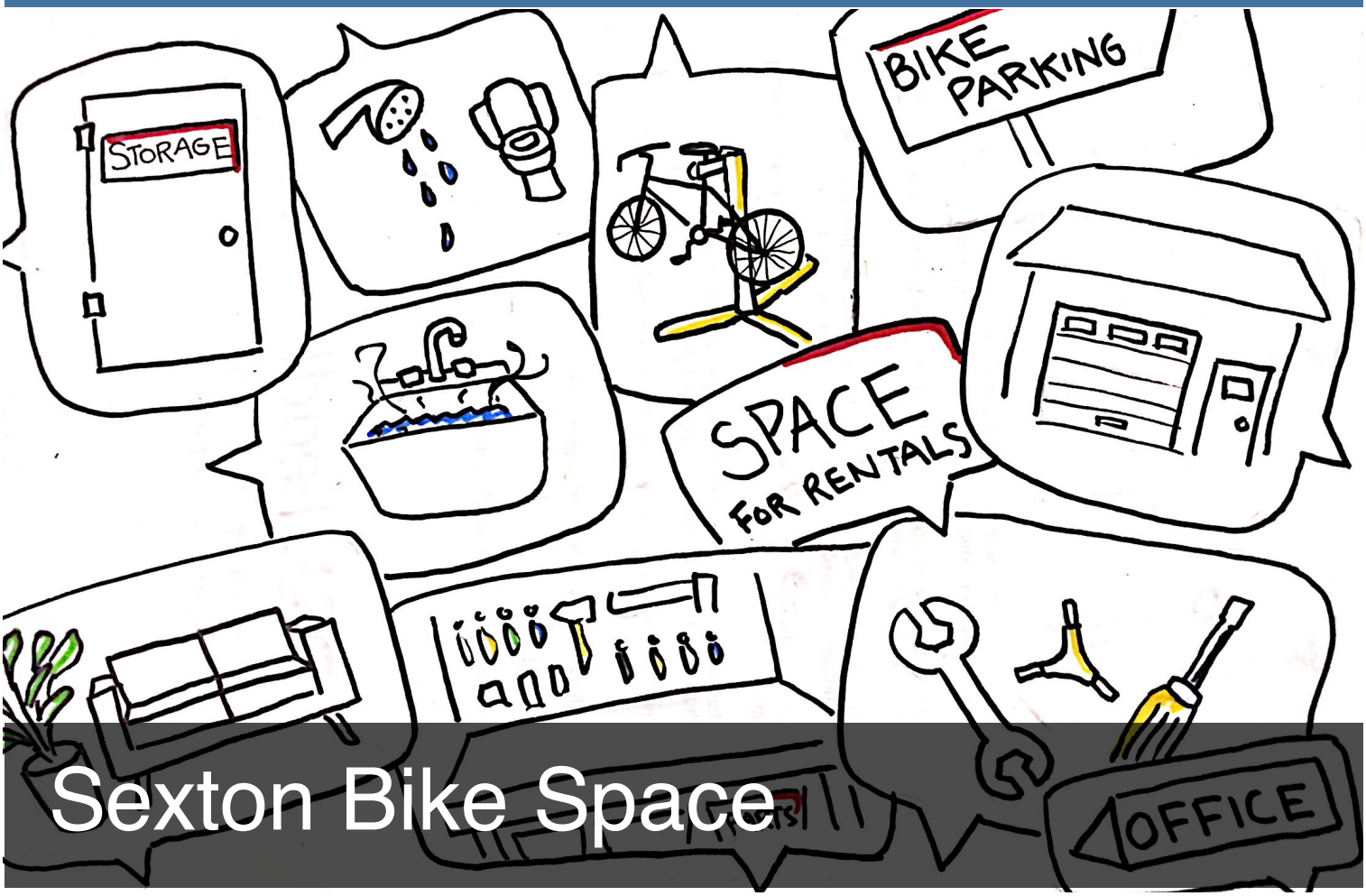

Sexton Bike Space

Prioritizing Design Elements for a Sexton Campus Bike Space

Kate Richardson — Environmental Science
Lauren Ballantyne — Environmental Science
Emily Febrey — Environmental Science & ESS
Anika Riopel — Theatre & ESS
Kara Martin — Community Designing & ESS

SUST/ENVS 3502 April 11th, 2016

Mentor - Adam Cheeseman Professor - Tarah Wright

Executive Summary

In an effort to expand Dalhousie University Sexton campus (as herein referred to as Sexton campus) services the Innovative Design in Architecture and Engineer (IDEA) building has been proposed for construction in 2018 (Dalhousie University Facilities Management, 2015). Any proposed buildings larger than 10,000 square feet on Dalhousie University must earn a Leadership in Energy and Environmental Design (LEED) gold designation (Dalhousie University Sustainability Office, 2015). Numerous standards must be met to achieve gold certification requirements, ranging from: energy efficiency, wastewater management, to cycling facilities. More specifically, one of the requirements includes providing an indoor bike parking space and showers for building users (LEED, 2014). LEED cycling requirements of the IDEA building ensure amenities for Dalhousie University's Sexton students, staff, and faculty. Integrating these requirements with expanding the services offered by the Dalhousie University Studley Campus Bike Centre (Dal Bike Centre) improves cycling accessibility for all Sexton students and staff.

The objective of this project is to gather design priorities of current Dal Bike Centre users, staff, and employees, as well as Sexton campus students, for the proposed IDEA building. To gather participant ideas, three focus groups were held, incorporating design charrettes, to understand what is of importance in a new bike space on Dalhousie University's Sexton Campus.

Recommendations from this study incorporate LEED and Halifax Regional Municipality (HRM) downtown bylaw requirements with participant results. These findings have been translated into three preliminary design proposals, ranging in terms of scale and design features, which are found in the results section of this report.

Study results will be shared with the Dalhousie University Sustainability Office, and DSRA Architecture. The goal of this project is that these identified design elements will be incorporated into the final design of the bike space within the IDEAS building.

Table of Contents

I. Introduction

i. Biking and Dalhousie University

Bicycling, as a form of transportation, plays a key role in terms of sustainability on university campuses. Transportation is a large contributing factor to universities ecological footprint (Bonham & Koth 2010). This holds true for Dalhousie University, as the primary mode of transportation used by students, staff, and faculty to commute to and from Dalhousie University is personal motor vehicles. Motor vehicle use results in numerous consequences for the environment including increased air pollution, and traffic congestion (Megenbir et al., 2014). Alternatively, cycling offers a sustainable form of transportation that helps foster healthy lifestyles and increases community connectivity, which cannot be achieved through the use of motor vehicles (Gallagher et al., 2012). For these reasons, Dalhousie University has identified active transportation as a significant contributor for achieving the University's sustainability goals, which are outlined in Dalhousie University's *Campus Master Plan* (Dalhousie University, 2010).

To promote active transport in both Halifax and on campus; Dalhousie University, established a Bike Centre on its Studley Campus in 2009. The mission of the Bike Centre "is to establish Dalhousie University as a community leader in active and sustainable modes of transportation" (Dal Bike Centre, 2016). The Dal Bike Centre allows students, staff, community members and faculty to access services such as free bike rentals, repair facilities, and cycling education programs (Dal Bike Centre, 2016). The services of the Bike Centre are presently serving all three Dalhousie University campuses. Extending Bike Centre services to Sexton campus would improve accessibility and accommodate more students, faculty, and staff (R. Owens, personal communication, March 14th, 2016).

Construction of new buildings on Dalhousie University must adhere to various policies and guidelines, such as the green building policy that was passed by Dalhousie University in 2010. This policy states that "all new buildings over 10,000 square feet should be LEED Gold Certified, or higher" (DAL Sustainability, 2015). Leadership in Energy & Environmental Design, more commonly known as LEED, is a certification process to verify building designation and construction for human and environmental health. LEED certification encourages universities and other large institutions to take into consideration things such as sustainable site development, water savings, energy efficiency, material selection and environmental quality when designing and constructing new buildings (USGBC, 2015).

Consultation of the new IDEAS building will need to adhere to the fourth version of the LEED bicycle facility requirements. Such facilities earn points towards LEED certification, promote transportation, and improve public health

by encouraging physical activity (LEED, 2014). There are several requirements, in terms of bicycle facilities, outlined within the fourth version of the LEED checklist. Firstly, long-term bicycle storage needs to be provided for a minimum of 5% of all regular building occupants (LEED, 2014). Secondly, there must be one on-site shower with a changing space for the first 100 regular building occupants and for every 150 additional regular occupants there must be another shower added (LEED, 2014). Thirdly, long-term bicycle storage must be within 30m of a main entrance (LEED, 2014). Finally, bicycle storage capacity that is designated to occupants of non-project facilities cannot serve project occupants as well (LEED, 2014). In addition to the LEEDs bicycle facility requirements, the IDEAS building designers would also need to consider Dalhousie's active transportation guidelines.

The Dalhousie University Active Transport Guidelines (DUATG) incorporates the regulations and guidelines found within the following municipal documents: Halifax Regional Municipality (HRM) Land Use By-law; the HRM Active Transportation Plan; the HRM Active Transportation Technical Appendix – Facility Planning and Design Guidelines Chapter 5.0; and, the fourth version of LEED. The overall goal of the DUATG is threefold. Firstly, the DUATG strives for integration of active transportation infrastructure in new and existing premises. Secondly, the guideline aims to improve accessibility on Dalhousie campuses (Dalhousie University, 2015). Finally, the guideline aspires to encourage sustainability, localization, lifestyle awareness, and energy and water conservation in campus infrastructure designs. The DUATG addresses: bicycle parking requirements, shower areas, change rooms, and access to bicycle facilities. Bicycle parking, outlines three types of parking which are Class A, Class B, and Enhanced Parking. Class A parking is bicycle parking that protects the entire bike, such as a bicycle cage and these parking facilities may be placed up to 200m from any building entrance. Class B parking is secured in the ground or mounted on walls, and must be within fifteen meters of an entrance to the building. Enhanced Parking provides additional facilities such as showers and lockers. Under the Enhanced Parking requirements there must be a minimum of one shower stall for every six bicycle parking spaces and a locker for every enhanced bike parking space (Dalhousie University 2015).

There are multiple overlaps between the various requirements for a new university building downtown. Aligning these requirements with Dalhousie University's sustainability goals creates an opportunity for an innovative bike space on Sexton Campus that goes beyond basic requirements.

ii. University Bike Centers

Bicycle centers and bike related facilities are becoming increasingly prominent on university campuses and in cities around the world. This section further explores previous proposals for design alterations at the Dal Bike Centre, and showcases examples of other universities' bike facilities.

In 2012, a group of Dalhousie University students gathered information on what design elements should be included in a new Bike Centre on Studley Campus (Gallagher et al, 2012). The group aimed to include suggestions for the Dalhousie University's biking community into their design for an upgraded Bike Centre at the Dalplex Sports Facility. Gallagher et al. were able to identify elements through interviewing various members of Dalhousie University's biking community (2012). Findings highlighted increased space to maximize the functionality of the centres services as items such as: sink, improved lighting, interior and exterior bike racks, and adequate outdoor space for education programs. In addition, Gallagher et al. recommend that the proposed Bike Centre should aim to improve campus and community accessibility. The report concluded that Dalhousie would greatly benefit from a improved space for the bike centre (Gallagher et al, 2012).

Comparable student-run bike centres exist on many college campuses across Canada and the United States. Notable examples are the Michigan State University (MSU) and University of Victoria (UVic). MSU Bikes is a university run bike shop located on campus at Michigan State University. Since its establishment in 2006, MSU bikes have been providing the campus with bicycle sales, rentals, and repairs. Their mission is to promote cycling as a healthy and sustainable transportation method for the MSU community. The shop sells new and used bikes, parts and accessories, as well as provides short and long term rentals. MSU Bikes also supports the biking community by providing a range of bike repair services, storage and maintenance clinics (2016). They educate the community through repair and safety seminars as well as emphasizing the environmental and health benefits of cycling. Furthermore, they create incentive programs for regular riders, host rides, events and challenges to encourage cycling (MSU Bikes, 2016).

In 2013, the University of Victoria constructed a new Campus Bike Centre, which replaced twenty-eight parking spots in the University Centre underground parkade. The UVic Bike Centre added a wide range of design features to the new bike centre including: sheltered bike parking, equipment lockers, benches and a larger space for their SPOKES bicycle program. The project also focused on making the centre more visually appealing by installing proper lighting, painting the walls and improving the centres air circulation. They focused on the interior atmosphere because the centre is located in an underground parkade, which does not have a very welcoming feel to it. An important message to take away from this project, besides the design elements installed, is that a university should utilize free space in existing campus building and convert the space into sheltered bike storage, because it cuts down on costs of construction and promotes biking during various weather conditions (Campus Bike Centre, 2013).

Michigan State University (MSU) and University of Victoria's bike centres provide examples of how other universities are successfully fostering bicycle friendly campuses.

iii. Purpose

The purpose of this study is to determine what design elements current employees, users, and stakeholders of the Dal Bike Centre, would recommend for a bike space on Sexton Campus. The study conducted three focus groups, of open-ended questionnaires and design charrettes that will be discussed in the following sections.

The following sections include methods, results, discussion, and conclusion. The methods section gives in depth insight as to how the data was collected. The results section presents the priority design elements, outlier design elements, and bike space services that the focus group participants want to see in a new bike space on Sexton Campus. The discussion section presents and describes three bike space designs that are based on our findings, building requirements, and previous research suggestions, such as Gallagher et al.'s work. Finally, the conclusion section provides recommendations for future action and future research.

II. Methods

i. Research Question

What design elements are of priority for current employees, users, and stakeholders of the Bike Centre at Dalhousie's University Studley Campus for the creation of a new bike centre on Sexton campus?

ii. Research Tools

This study conducts focus groups and utilizes the following research tools:

- Open-end Group Questions
- Design Charrette

iii. Justification for Research Tool

To identify key design elements that should be incorporated into the Dalhousie bike space on Sexton Campus informed participants were required. Therefore, the project used an exploratory and non-probabilistic study design as well as a purposive sampling technique to address the research question. Participants for this study were selected based on either their current knowledge or involvement with the Dal Bike Centre on Studley Campus or because they are students who attend classes on Dalhousie University's Sexton Campus.

Focus groups were used to gather data and gain deeper understandings of design elements to be incorporated in a proposed Sexton campus bike space. This research tool facilitated collected of input from individuals who have expertise or knowledge about a particular topic (Palys & Atchison, 2014). Unlike face-to-face interviews in which data and opinions are collected from one individual at a time; focus groups allow multiple participants to contribute and share different perspectives in a single meeting (Palys & Atchison, 2014). Focus groups also allow participants the opportunity to discuss the rationale behind their opinions. According to Palys & Atchison (2014) "Small number of such individuals brought together as a discussion and resource group is more valuable many times over than any representative sample". As a focus group has multiple contributors, it also aided in reducing the amount of reactive bias in participant responses.

In conducting the focus groups two research tools were utilized: questionnaires and design charrettes. The questionnaire was distributed to the participants at the beginning of each focus group and participants were asked to write their response to six open-ended questions. The purpose of this questionnaire was to allow participants to begin thinking about the current

Dal Bike Centre and the design elements that they would like to see in a new bike space on the Sexton campus. The second step of the focus group consisted of a design charrette, which is an engagement tool used to facilitate ideation and collaborative design concepts (Hester, 2010). Each participant of the focus group was asked to draw a design bike space proposal with prioritized elements. After the participants completed their design charrettes each participant was asked to identify their top five priority elements based on their design charrette. An example of a design charrette can be seen in Figure 1 below.

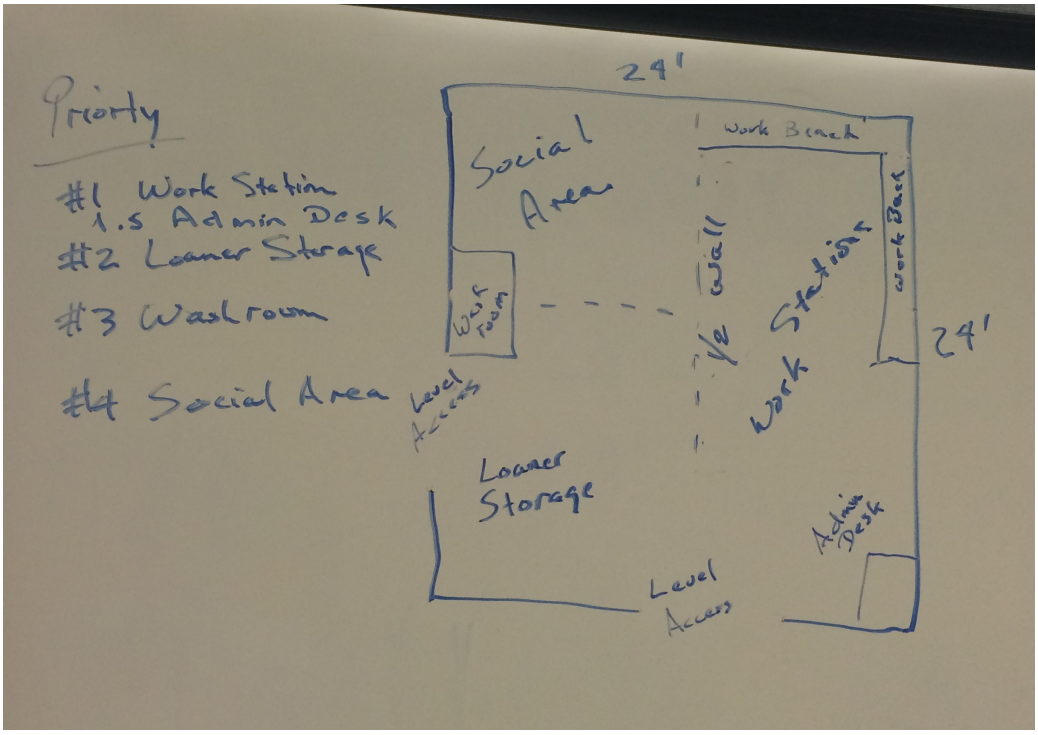

Figure 1: A participant design charrette with labeled priorities

Open-ended questions were utilized in the questionnaires. This type of question does not restrict the answers that participants can provide, instead they allow for new ideas and creative thinking (Palys & Atchison, 2014). The use of open-ended questions also allowed participants to provide an in-depth explanation of their answers and for participants to clarify their opinions and perspectives.

To address and limit some of the inherent problems with focus groups, participants were given pen and paper to write down any additional ideas that they may not have gotten the chance to share with the rest of group; these ideas were then collected at the end of the session. Design charrettes are another method used to limit some of the inherent problems of focus groups by allowing both individual and collaborative responses through tactile and verbal replies. This research tool allowed all participants equal opportunity to contribute their ideas to the final group design (Hester, 2010). Finally, interviewers were there to facilitate conversations and equal sharing opportunities in the focus groups.

iv. Focus Groups

Three focus groups were held to accommodate various stakeholders and participants. These include:

Focus Group A: Dalhousie University Staff and Dalhousie Bike Centre board members

Focus Group B: Dalhousie Bike Centre Volunteers and Staff

Focus Group C: Sexton University Students and Key Community Cycling Stakeholders

v. Procedure

The following procedures were used in the facilitation of the focus groups.

Ethics
- Complete and submit ethics form (Appendix A)

Invitations
- Call/email potential participants to invite them personally to the meeting (Appendix B).
- Send email which includes details of location and time, overview of questions and consent form
- Three days before the focus group, send each participant a reminder email

Planning
- 1.5 - 2 hours ideal
- Provide food (Grant application DSUSO Appendix H & I)
- Location: good airflow and lighting, whiteboards, convenience (on Dalhousie University's Studley Campus).

Facilitating:
- Follow the Facilitator Script (Appendix D) to ensure continuity, replicable and formality.
- Appendix C, E and G included the consent form, question sheet, and facilitator note sheet.
- 2-4 facilitators – 1-2 leading session, 1-3 note takers

Immediately After The Session:
- Make additional notes
- Write down any additional observations made during the session

(Crossman, 2014)

vi. Facilitation

The sessions were facilitated to create a safe, comfortable, and open environment for discussion. The facilitators implemented active listening skills, which are based on the work of psychologist Carl Rogers. It focused on giving undivided attention to the speaker, which avoids reactive bias (Robertson, 2005). The intent of this approach was to initiate, prompt and referee the discussion without imposing the facilitator's personal biases.

vii. Data Acquisition

Data was recorded and collected by designated note takers who attended each focus group and recorded key concepts and ideas. The note takers focused not only on the design priorities but they also recorded participants reasoning behind their prioritization of certain design elements. To ensure all participants felt comfortable the facilitator briefed participants on the data collection process, and ensured each participant that their answers would remain confidential. Each participant was given a print out of the questionnaire and a pen, which they used to jot down notes and ideas about the design elements that should be offered in a new bike space. Participants were asked not to include their names on the questionnaire form and the questionnaires were collected at the end of each focus group. Photos were also taken of each participant's design charrette. The photos also remained confidential as participants were asked to not sign their name to their charrette.

viii. Data Analyses

Qualitative data was gathered from each focus group in both a written format and graphic format. The written format included the notes taken by the note takers, the participants completed questionnaires, and the participant's priority design elements list. Graphic data collection consisted of design charrettes, in which each participant drew a design concept. The findings were analyzed using a grounded a posteriori context sensitive scheme. Hand-coded techniques were used to categorize key words and concepts (Palys & Atchison, 2014). Analysis and coding took into account both common codes, and outlier or uncommon codes (A. Cheeseman, personal communication, March 1st 2016). Due to the creative and imaginative nature of exploratory research, these random and outlying responses contained original or unique ideas that were separate from those elements that were required or were considered to be common. After the coding was completed three result tables were produced. The first was a table of the priority features; these were features that had been identified as being of priority in all three of the focus groups. The second table identified all unique features, which were those that were only mentioned by one participant at one of the three focus groups. The final results table was a list of services in which some participants of the different focus groups identified as being of priority to them.

ix. Limitations & Delimitations

A delimitation regarding this research is that focus groups were selected based on their connection to the current Dalhousie Bike Centre. By creating selected focus groups, there was a limited opportunity to hear from a more diverse group of people. Another delimitation was that participants were allowed unlimited conceptual space and resources to imagine an ideal bike space. These have the potential to produce unfeasible and unrealistic ideas.

A major limitation to the study was the time constraint of the research period. Due to a snow day the research period was condensed to four weeks. With the busy mid semester timing and short notice, only 13 participants were able to attend.

III. Results and Discussion

As previously noted above, 13 individuals participated in the three focus groups that were conducted. The results of this study are based on the top five design elements that each respondent indicated as being of priority to them in a new bike space on Dalhousie University's Sexton Campus. The results of each respondent's top five design elements have been grouped into three categories they include: priority design elements; outlier design elements; and, bike space services. The results of each of these categories will be expanded below and design charrettes are referenced in Appendix J.

i. Priority Design Elements

Priority design elements were determined based both on the frequency in which they were listed by individual respondent and if a design element was found in the priority list of respondents from at least two focus groups. Those design elements that were considered to be of priority based on these criteria can be found in Table 1. Priority of the design elements for the respondents in Table 1 are organized based on the frequency in which the respondents indicated the design element. Those design elements with higher frequency values are considered to be of greater priority to focus group respondents in a new bike space on Dalhousie University's Sexton Campus.

The design element that was identified as being of highest priority to respondents was storage. Many respondents indicated that the current Bike Centre on Dalhousie's Studley campus lacks sufficient storage space. Participants frequently mentioned that they would like to see increased storage for all the tools that would be necessary to have a functional bike servicing space. Many participants also indicated that increased personal storage space would also be beneficial in a new bike space. Increased personal storage would allow students, faculty and staff to store their bikes in the space during the winter if they are no longer riding them, and to have a place to store backpacks and clean clothes during the week when they are commuting to and from campus.

Communal meeting space was another design element that was indicated to be of high priority in a new bike space on Dalhousie's Sexton Campus. According to participants, this space would allow for both community and university events to be held within the new bike space, which will help to increase awareness of the bike space and the services that are available to students, staff, and faculty. It will also allow students, staff, and faculty to meet and connect over their shared passion for cycling.

Automatic or garage door access to the new bike space was also considered to be of high priority to focus group respondents. Many respondents indicated that having easy access to the bike space would be beneficial as it is presently lacking in the current Bike Centre on Dalhousie's Studley Campus. One respondent also talked about how an automatic or garage door would be

beneficial in the summer and fall months because it could be left open to allow air to circulate during the summer months and could lead to increased foot traffic to the bike space, in turn increasing awareness of the bike space.

An office space was also considered to be of high priority especially to respondents who volunteer or work at the current Bike Centre on Dalhousie's Studley Campus. This was of high priority to them because it would make the space look more professional.

Other design elements that were also listed as being of high priority are elements that are already incorporated in the current Bike Centre on Dalhousie's Studley Campus. Many respondents indicated that they would like to see an expansion in the number of these current design elements in the new bike space on Dalhousie's Sexton Campus.

Table 1 Priority design elements for a new bike space on Dalhousie University's Sexton Campus. Frequency indicates the number of times that elements were mentioned by focus group respondents with higher frequency indicating that the design element is of greater priority.

Design Elements	Frequency
Storage	8
Work Space and Benches	7
Communal Meeting Space	6
Bike Loans and Rentals Space	6
Sink	6
Automatic or Garage Door	6
Bike Parking	5
Tools	4
Bike Stand	2
Showers/ Washroom	2
Office	2

ii. Outlier Design Elements

Outlier design elements were only indicated once by respondents as being a design element that they considered to be important in a new bike space on Dalhousie's Sexton Campus. They were also determined to be an outlier design element because they were only mentioned during one of the focus

groups. Those design elements that were determined to be unique can be found in Table 2.

A giant map was a unique design element that could be easily implemented in a new bike space on Dalhousie's Sexton Campus. The respondent indicated this to be of priority to allow new visitors to the centre and students who are not from the Halifax area to be able to see different bike routes and trails. Similar to the giant map idea was the installation of a whiteboard, which would allow the bike space to promote events or indicate their hours of operation. A whiteboard is a feasible design element that could be implemented in a new bike space on Dalhousie's Sexton Campus.

Stackable chairs are another design element that could also be easily implemented in new bike space on Dalhousie's Sexton campus. This design element will be especially important if a communal space is incorporated into the final design of the bike space to ensure that large scale events and meetings could be easily held in the new bike space.

Other unique features such as accessible bike space, a parts washer, a glass wall, and a music station may not be as easily incorporated into a new bike space on Dalhousie's Sexton Campus. It is important to keep these design elements in mind when considering what the new space could look like and the services that it could offer.

Table 2 Outlier design elements for a new bike space on Dalhousie University's Sexton Campus.

Design Element	Frequency
Parts Washer	1
Giant Map	1
White Board	1
Stackable Chairs	1
Accessible Bike Space	1
Glass Wall	1
Music Station	1

iii. Bike Space Services

In addition to indicating different design elements, some respondents indicated different services that they would like offered in a new bike space on Dalhousie's Sexton Campus. Services were ideas that were not physical design elements, but instead could be provided from the new bike space. The list of bike space services can be found in Table 3 below. Each of the bike

services that are listed in Table 3 below were found in the respondents' priority lists. Many of these bike space services can be easily implemented, but are not of highest priority.

Table 3 Bike space services that could be offered in a for a new bike space on Dalhousie University's Sexton Campus.

Bike Space Services	Frequency
Used Bike Sale	1
Group Rides and Events	1
Bike Repair Classes	1
Bike Restoration Classes	1

iv. Considerations

During the focus groups, multiple considerations and concerns were discussed. A predominant concern that was mentioned during the three focus groups was ensuring that the space was secure. Bike tools, parts, and equipment are often small and expensive, and because of this, they can easily be stolen or lost. Therefore, a space that incorporates bike workstations and tools, alongside publically accessible bike racks, must be designed to compartmentalize and secure specific sections.

Another concern raised was the need for more volunteers to ensure that the new space will be run efficiently. However, the current manager Scott MacPhee attests that there is already significant interest from Sexton Campus students looking to volunteer (S. MacPhee, personal communication, March 22, 2016). The proposed solution to this concern is the Dalhousie Bike Centre staff implementing a new management strategy to sufficient run both locations.

The final concern of building a bike space on Sexton Campus is the potential for increased usage of the space after completion of construction. With a new HRM public green space being proposed to run adjacent to the IDEA building, as well as many proposed city wide bicycle infrastructure improvements, there was a consensus in the focus groups that a downtown student bike space would be increasingly popular over time. It was recommended that the space should be designed with future usage in mind.

Compiling our study findings, the building requirements, and previous research suggestions, three bike space designs were created. Each design offers different options for spatial and financial limitations, while attempting to incorporate as many design elements as possible. Our recommendations are preliminary concepts that can facilitate further discussions and consultation.

v. Design 1 – Comprehensive

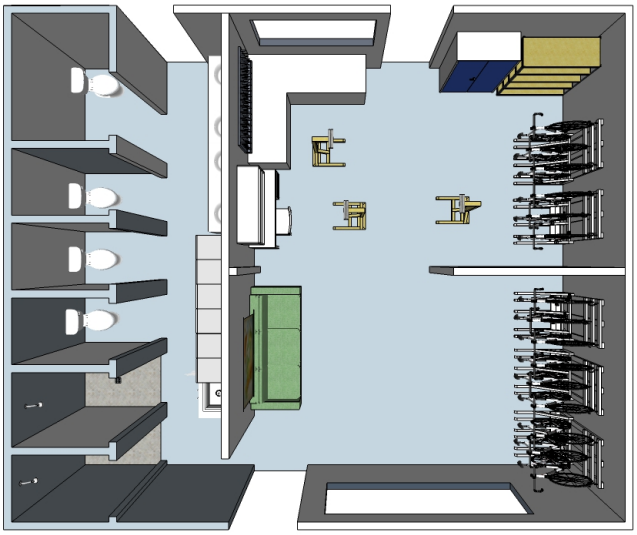

Figure 2: Comprehensive design floor plan

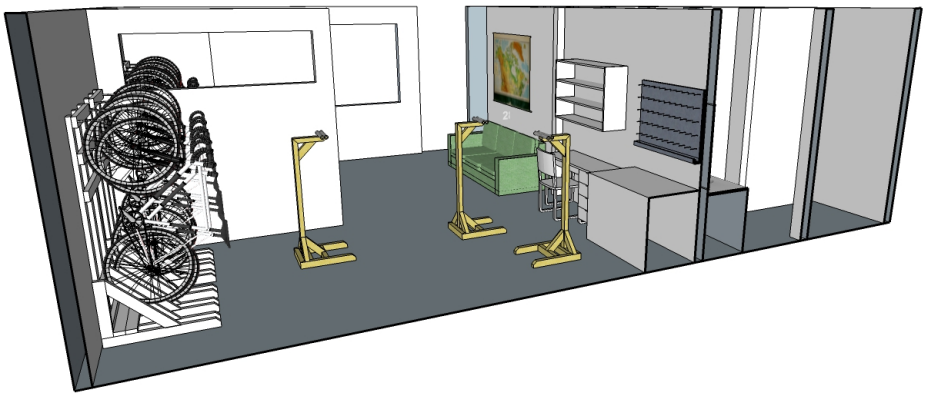

Figure 3: Comprehensive design side view 1

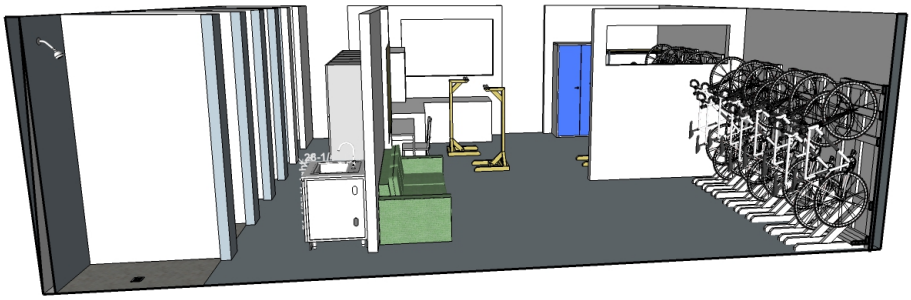

Figure 4 Comprehensive design side view 2

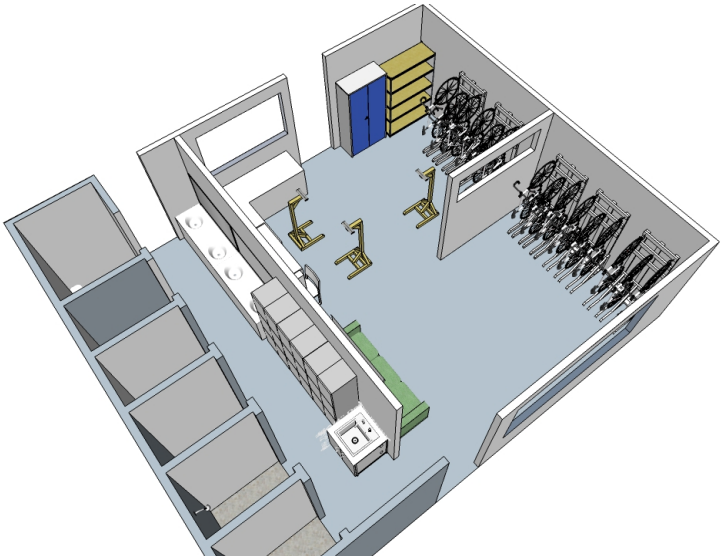

Figure 5 Comprehensive design angle view

The Comprehensive design in Figures 2, 3, 4 & 5, utilizes 750 square feet. It includes all of the requirements, and priorities, as well as many of the outlier design elements. While the space is slightly larger than a typical LEED bike room, the design includes a multi-use space that can meet other building/student needs. For example, the shower space includes 4 washroom stalls (1 accessible) that can be included in the buildings general washroom requirements. The space is accessible and visible from the outside and inside of the main IDEA building.

The space has been divided into three sections. The first section includes the washrooms and showers, which are accessible by doors from both the bike space and the main building, increasing the efficiency of the space while meeting LEED and HRM requirements. The lockers are also located in this section as well as an industrial sink that can be used to wash bike parts. The public can access this section of the space whenever the building is open, from both the exterior and interior.

The second section of this design features public couches and wall mounted bike racks, which are accessible from two different entrances. The communal area and bike hangers are accessible by the public whenever the building is open. The walls in this space can be utilized for bike related information such as a giant city map with suggested routes and trips, and a space for pamphlets, maps, and general bike safety information. The community space will also function as space for bike mechanic classes, film screenings and board meetings. Furniture will assist the facilities to accommodate different needs, including projectors for film screenings, or room for bike stands to demonstrate mechanical classes for large groups. It will also serve a dual function as a general student study space. The space also includes large windows that improve visibility of the space from the exterior and interior of the IDEA building, thus ensuring maximization of the space.

Finally, in the third section is a small workshop area. This space includes workbenches, tools, bike stands, an office desk, storage, and wall mounted bike racks for rental bikes. A lockable pull out or pocket door will secure the area when volunteers or staff are not present. Adjacent exterior of the building can include additional bike rack space to accommodate increased usage (including covered bike racks), and a faucet for washing bikes down.

The Comprehensive design meets many needs while still maintaining a relatively small spatial footprint. It will meet the current needs of a sexton bike mechanic space and LEED bike rooms requirements. However, the space is limited, and if there is increased interest or usage, it will quickly outgrow itself.

vi. Design 2 - Bare Necessities

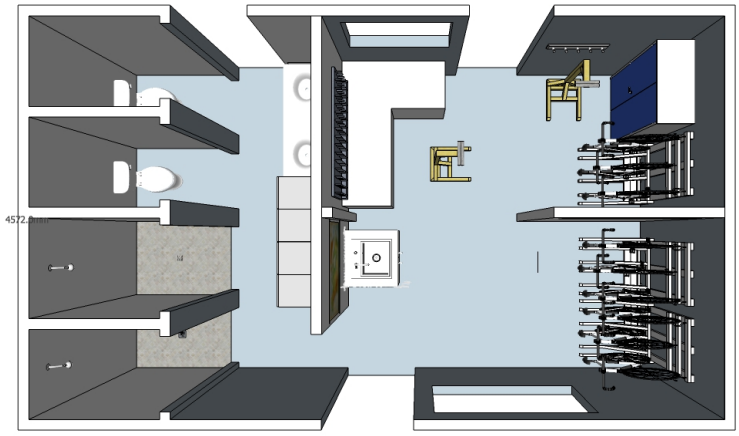

Figure 6: The Bare Necessity design floor plan

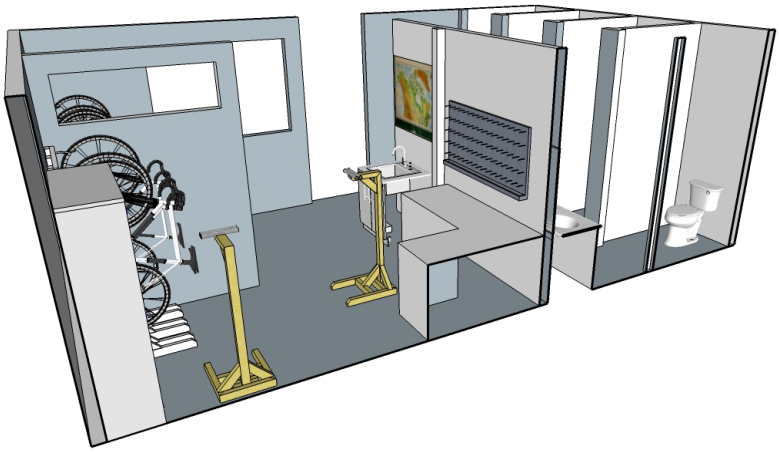

Figure 7: The Bare Necessity design side view

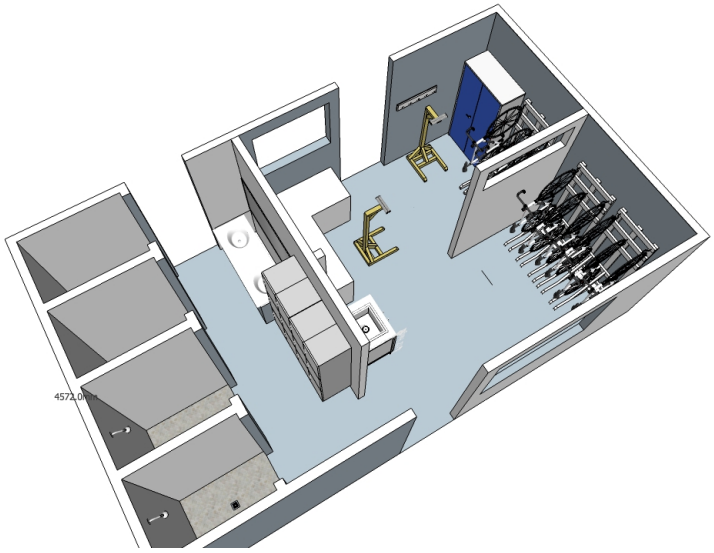

Figure 8: The Bare Necessity design angle view

The Bare Necessity design in Figures 6, 7 & 8, comprises 400 square feet. It includes all of the required design elements as well as some of the priority design elements. The square footage of this design is in line with current LEED bike rooms that are found on Dalhousie's Studley and Carleton Campuses. This space has been divided into the three sections.

The first section includes washrooms, lockers, and showers, which are accessible by doors from both the bike space and the main building. The central component of this design includes an industrial sink, wall mounted bike racks, and a door to building exterior. This space will be open to the public during building hours and allow access to indoor bike racks. The walls in this space can be utilized to share bike related information including pamphlets, maps, and general bike safety information. Adjacent to the main space is a smaller workshop area and storage area, which includes: work benches, tools, bike stands, an office desk, storage, and wall mounted bike racks for rental bikes. A lockable pull out or pocket door will secure the area when volunteers or staff are not present. Adjacent exterior of the building can include additional bike racks to accommodate increased usage (including covered bike racks), and a faucet for washing bikes down.
The Bare Necessities design meets cycling requirements while maintaining a minimal footprint. It will meet some of the current needs of a bike space; however, the space is extremely limited and lacks the inclusion of many of the identified priority design elements.

vii. Design 3 - Collaborative

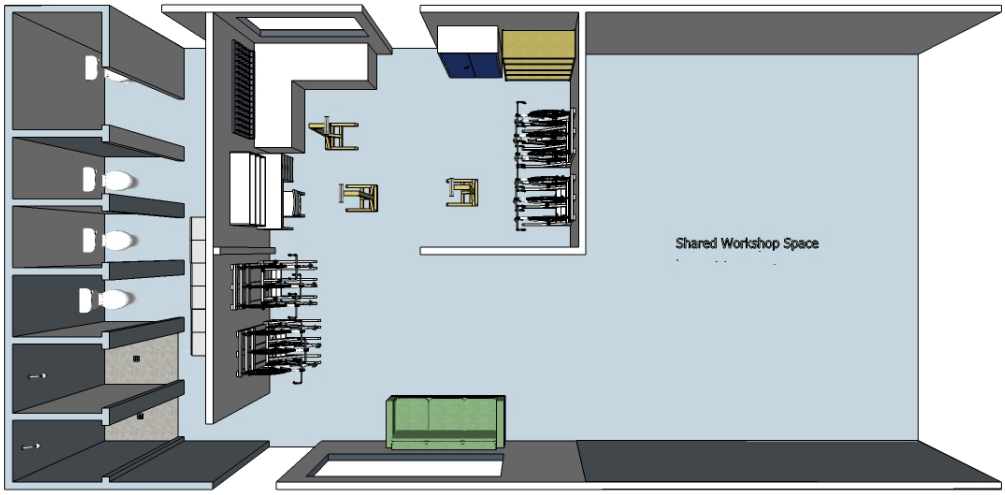

Figure 9: The Collaborative design floor plan

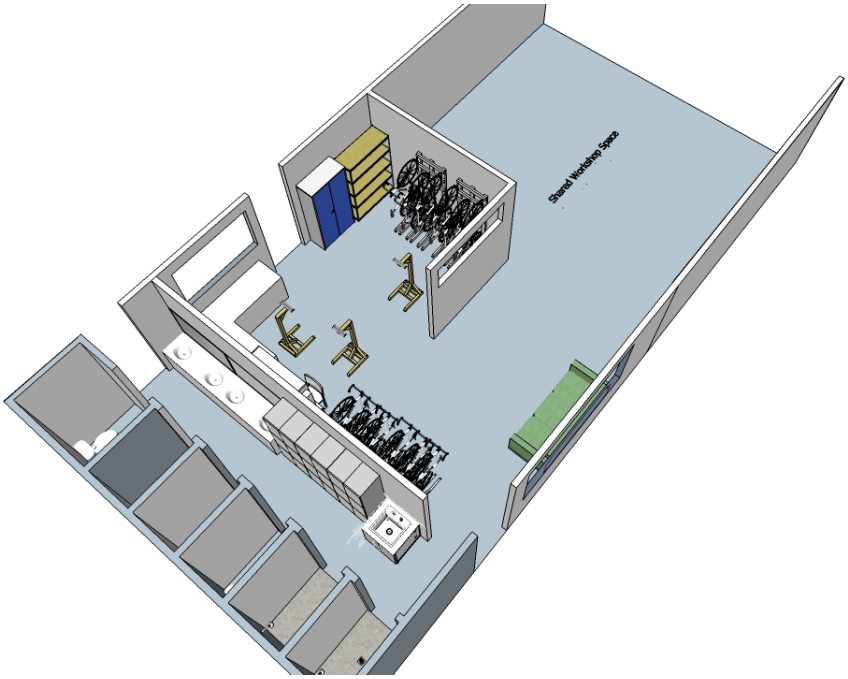

Figure 10: The Collaborative design angle view

The Collaborative design in Figures 9 &10, has no fixed square footage. This space incorporates design elements from the comprehensive design, while proving the opportunity to collaborate with other workshops, lab spaces, or student services. The Master Plan for the IDEA building states that the concept of the current design will include an auditorium, high bay-door workshops, studios, design commons and an innovation hub (Dalhousie

University Facilities Management, 2015). The bike space could easily be amalgamated into this concept. In doing so, the bike space would truly move beyond a token space meeting requirements, to an innovative vision. This design proposal offers a creative and holistic approach to effectively and efficiently utilize IDEA space.

IV. Conclusion

Sustainable buildings should go beyond token efficiency measurements; instead they should strive to meet current and future needs. These spaces should promote and encourage sustainable behaviour, in addition to facilitate collaboration and community.

The inclusion of an innovative bike space in the new IDEA building will demonstrate Dalhousie University's dedication to sustainable development. The space will encourage bicycling and other means of active transportation by providing necessary facilities. Additionally, a Dalhousie University Sexton campus bike space can establish an open, friendly and accessible space for new cyclists to learn and explore, as well as providing opportunities for experienced cyclist to continue expanding their knowledge.

The new IDEA building offers an opportunity to improve Sexton campus student needs. The current Sexton campus lacks many of the features accessible to Studley Campus students and, by proximity, Carlton campus students. By providing a bike space on Dalhousie University's Sexton campus it will connect the new Sexton bike space with the Studley Bike Centre, in addition to fostering a more prominent cycling community at Dalhousie University.

This research project and recommendations offer a preliminary conceptualization of a proposed Sexton campus bike space. As noted above, further consultations and discussions with both stakeholders and the public need to be conducted. This study's research findings do not take into account architectural building restrictions and requirements like plumbing, electricity, or regulations. Instead, this study aims to provide a foundation of research so that a Sexton bike space can become a multi functional, purposive space that supports and promotes sustainable lifestyles.

V. Acknowledgements

We would like to take the opportunity to thank our professor Dr. Tarah Wright and our mentor Adam Cheeseman for all their support, guidance, and direction throughout the entirety of this process. We would also like to thank Rochelle Owens for her direction and feedback throughout this project In addition, we would like to thank the Dalhousie Student Union's Sustainability Office for providing the necessary funding to ensure this project was a success. Finally, we would like to express our gratitude to the thirteen participants who contributed their thoughts and ideas to our focus groups; without you this project would not have been able to happen.

VI. References

Bonham, J., & Koth, B. (2010). Universities and the cycling culture. *Transportation Research Part D: Transport and Environment*, *15*(2), 94–102. http://doi.org/10.1016/j.trd.2009.09.006

Campus Bike Centre. (2013). [University of Victoria]. Retrieved from http://www.uvic.ca/campusplanning/current-projects/bike-centre/index.php

Crossman, A. (2014, December 04). Focus Groups. Retrieved March 01,2016, from http://sociology.about.com/od/Research-Methods/a/Focus-Groups.htm

Dalhousie University. (2015). *Active transportation guidelines and standards.* Retrieved from http://www.dal.ca/content/dam/dalhousie/pdf/facilities/Design%20Guidelines/ActiveTransportationGuide.pdf

Dalhousie University Bike Centre. (2016). *Dalhousie bike centre*. Retrieved from http://www.dal.ca/dept/bike-centre.html

Dalhousie University Facilities Management. (2015). *IDEA Building*. Retrieved from http://www.dal.ca/dept/facilities/campusdevelopment/projects/idea-Building-.html

Dalhousie University Sustainability Office. (2015). *New construction*. Retrieved from http://www.dal.ca/dept/sustainability/programs/Built_Environment/New_Construction.html

Dalhousie University Sustainability Office. (2015). *Office staff*. Retrieved from http://www.dal.ca/dept/sustainability/about/Office_Staff.html

Gallagher, M., Gerrits, S., Glesta, J., King, C., Lampier, J., & Remedios, S. (2012). *The Dalhousie Bike Centre Design Alternatives* (pp. 4–12, 33, 37–38). Halifax, NS: Dalhousie University. Retrieved from http://www.dal.ca/content/dam/dalhousie/pdf/bike_centre/…

Hester, R. T. (2010). *Design for Ecological Democracy*. Cambridge, MA: MIT Press.

Leadership in Energy & Environmental Design (LEED). (2014). *LEED v4 for building and design construction*. Retrieved from http://greenguard.org/uploads/images/LEEDv4forBuildingDesignandConstructionBallotVersion.pdf

Megenbir, L., Habib, M. ., & Salloum, S. (2014). *Travel Behaviour of Dalhousie University Commuters* (An Analysis of Dalhousie

Sustainability Survey) (p. 61). Dalhousie University. Retrieved from http://www.dal.ca/content/dam/dalhousie/pdf/sustainability/…

MSU Bikes. (2016). Retrieved from http://bikes.msu.edu

Palys, T. S., & Atchison, C. (2014). Research decisions: Quantitative, qualitative, and mixed method approaches. Toronto: Nelson Education.

Robertson, K. (2005). Active listening. *Australian Family Physician, 34* (12). Retrieved March 1, 2016

United States Green Building Council. (2016). *About LEED*. Retrieved from http://www.usgbc.org/articles/about-leed

Images

Cover photo: Riopel, A. (2016).

Figure 1: Riopel, A. (2016).

InDesign Images

Figures 2-10: Martin, K. (2016).

VII. Appendices

Appendix A: Ethics

ENVIRONMENTAL PROGRAMMES

FACULTY OF SCIENCE

DALHOUSIE UNIVERSITY

APPLICATION FOR ETHICS REVIEW OF RESEARCH INVOLVING HUMAN PARTICIPANTS

UNDERGRADUATE THESES AND IN NON-THESIS COURSE PROJECTS

GENERAL INFORMATION

1. Title of Project: Designing Sexton – Prioritizing Design Elements for a New Sexton Campus Bike Centre

2. Faculty Supervisor(s)	**Department**	**e-mail:**
Tarah Wright	Environmental Science	tarah.wright@dal.ca

3. Student Investigator(s)	**Department**	**e-mail:**
Emily Febrey	Environmental Studies	emilyfebrey@hotmail.com
Lauren Ballantyne	Environmental Studies	laurenreneeballantyne@gmail.com
Kate Richardson	Environmental Studies	karichardson@gmail.com
James McGrath	Environmental Studies	james.mcgrath@dal.ca
Kara Movanon	Community Design/Sust	karamartin@dal.ca
Anika Riopel	Theatre/Sust	anika.riopel@gmail.com

4. Level of Project:

Non-thesis Course Project: [X] Undergraduate

Specify course and number: ENVS/SUST 3502

5. a. Anticipated commencement date for this project: March 10th, 2016

b. Anticipated completion date for this project: April 11th, 2016

SUMMARY OF PROPOSED RESEARCH

1. *Purpose and Rationale for Proposed Research*

Research question: What design elements are priorities for bike community stakeholders at Dalhousie University Campuses (Halifax) in the creation of a new bike centre on Sexton Campus.

The objective of this proposed research is to identify what elements are needed in a new centre so that those can be incorporated into the Sexton Bike Centre for the new IDEAS building. This will be done by consultation with students and faculty members of Dalhousie University, as well as key cycling community stakeholders, to gather their opinions and then to inform and educate students, faculty, key decision-makers who are involved in the final design of this research.

Collecting this information will allow the Office of Sustainability to properly advocate for proven needs of the new Sexton bike centre. During the planning and design stages of new spaces, it is important to identify elements needed to establish a comprehensive layout. By

conducting stakeholder engagement, this study aims to accurately identify those design requirements and priorities.

2. *Methodology/Procedures*

a. Which of the following procedures will be used? Find a copy of all materials to be used in this study within the Appendix...

[ ] Survey(s) or questionnaire(s) (mail-back)
[x] Survey(s) or questionnaire(s) (in person)
[ ] Computer-administered task(s) or survey(s)]
[ ] Interview(s) (in person)
[ ] Interview(s) (by telephone)
[x] Focus group(s)
[ ] Audio taping
[ ] Videotaping
[ ] Analysis of secondary data (no involvement with human participants)
[ ] Unobtrusive observations

[x] Other, specify: Design Charrette

b. Provide a brief, sequential description of the procedures to be used in this study.
To gather data for this research question we will host 3 separate focus groups that will allow for open discussion among several individuals of different relevance to the project to gather opinions and perspectives on the different design elements. At these focus groups, there will be 2 representatives from the research group to prompt and guide discussion, question sheets will provide participants the opportunity to take their own notes, and a white board to provide an outlet for participation.

3. *Participants Involved in the Study*

a. *Indicate who will be recruited as potential participants in this study.*

Dalhousie Participants:
[x] Undergraduate students
[x] Graduate students
[x] Faculty and/or staff

Non-Dal Participants:
[ ] Children
[ ] Adolescents
[x] Adults
[ ] Seniors
[ ] Persons in Institutional Settings (e.g. Nursing Homes, Correctional Facilities)

[x] Other (specify): stakeholders in the biking community (adults)

b. *Describe the potential participants in this study including group affiliation, gender, age range and any other special characteristics.*

Age: 19-65
Gender: combination of male, female, and other.
Group Affiliation: University staff; Dalhousie bike centre board members, staff and volunteers; Dalhousie students; and community members.

c. *How many participants are expected to be involved in this study?:* *15-20*

4. *Recruitment Process and Study Location*

a. From what source(s) will the potential participants be recruited?

[x] Dalhousie University undergraduate and/or graduate classes
[x] Other Dalhousie sources (specify): Studley Campus Bike Centre, Dalhousie Staff
[ ] Local School Boards
[x] Halifax Community
[ ] Agencies
[ ] Businesses, Industries, Professions
[ ] Health care settings, nursing homes, correctional facilities, etc.
[ ] Other, specify (e.g. mailing lists)

b. *Identify who will recruit potential participants and describe the recruitment process.*

Provide a copy of any materials to be used for recruitment (e.g. posters(s), flyers, advertisement(s), letter(s), telephone and other verbal scripts).

Two members of the research group, Kara Martin and Anika Riopel, are responsible for the selection and recruitment of participants for this research project. They will initiate communication with targeted individuals to assess interest, and then send out a formal email inviting participants to be a part of the research. Please find a copy of the recruitment email found as Appendix .

5. *Compensation of Participants*

Will participants receive compensation (financial or otherwise) for participation? Yes [x] No [ ]

A draw will be held at the end of each focus group (3), for $15 respectively.

6. *Feedback to Participants*

Briefly describe the plans for provision of feedback and attach a copy of the feedback letter to be used. Wherever possible, written feedback should be provided to study participants including a statement of appreciation, details about the purpose and predictions of the study, contact information for the researchers, and the ethics review and clearance statement.

Note: When available, a copy of an executive summary of the study outcomes also should be provided to participants.

Feedback: After collaborative design is complete, the facilitator will take an image and notes. Participants will be provided with contact info if they have any questions. They will also be invited to have access to the final report and a report summary. The will be thanked for their time. Each focus group will also have a draw for 15$ as an incentive for participating.

POTENTIAL BENEFITS FROM THE STUDY

1. **Identify and describe any known or anticipated direct benefits to the participants from their involvement in the project.**

Structure of the focus group allows for collective work with other cycling stakeholders to build a sense of collaboration and participation with each other. Participants can know that their feedback is part of advocacy work to campaign for a new Bike Centre on the under-serviced Sexton campus.

2. Identify and describe any known or anticipated benefits to society from this study.

The Dalhousie society and surrounding community members will benefit from this study in the knowledge of having contributed to the possible design of a new bike centre located on Sexton campus.

POTENTIAL RISKS TO PARTICIPANTS FROM THE STUDY

1. **For each procedure used in this study, provide a description of any known or anticipated risks/stressors to the participants. Consider physiological, psychological, emotional, social, economic, legal, etc. risks/stressors.**

[x] No known or anticipated risks

Explain why no risks are anticipated:

Provisions will be made to ensure that everyone will have an equal opportunity to share ideas through individual and group work. In addition, results will remain confidential, no names will be used in the final report.

2. **Describe the procedures or safeguards in place to protect the physical and psychological health of the participants in light of the risks/stresses identified in Question 1.**

There will be at least two leaders present in each focus group to facilitate, encourage participation, and prevent conflict.

INFORMED CONSENT PROCESS

Refer to: http://pre.ethics.gc.ca/english/policystatement/section2.cfm

1. **What process will be used to inform the potential participants about the study details and to obtain their consent for participation?**
   - [x] Information letter with written consent form; provide a copy
   - [ ] Information letter with verbal consent; provide a copy
   - [ ] Information/cover letter; provide a copy
   - [ ] Other (specify)

     _____
2. **If written consent cannot be obtained from the potential participants, provide a justification.**

ANONYMITY OF PARTICIPANTS AND CONFIDENTIALITY OF DATA

1. **Explain the procedures to be used to ensure anonymity of participants and confidentiality of data both during the research and in the release of the findings.**
   Due to the nature of focus groups, anonymity can not occur in this study However, identity of all ideas shared within the focus group will remain confidential after the session.
2. **Describe the procedures for securing written records, questionnaires, video/audio tapes and electronic data, etc.**

Three year after this class is completed, all written questionnaires, drawings, and electronic data will be destroyed. The reason for the longer time period is due to potential data being of further use to the design of Sexton Bike Centre and Rochelle.

3. **Indicate how long the data will be securely stored, the storage location, and the method to be used for final disposition of the data.**
   - [x] Paper Records
     - [ ] Confidential shredding after ___3___ year after completion of class
     - [ ] Data will be retained indefinitely in a secure location
     - [ ] Data will be retained until completion of specific course.
   - [ ] Audio/Video Recordings
     - [ ] Erasing of audio/video tapes after _____ year after completion of class
     - [ ] Data will be retained indefinitely in a secure location
     - [ ] Data will be retained until completion of specific course.
   - [x] Electronic Data
     - [ ] Erasing of electronic data after ___3___ year after completion of class

[ ] Data will be retained indefinitely in a secure location

[ ] Data will be retained until completion of specific course.

[ ] Other _____

(Provide details on type, retention period and final disposition, if applicable)

Specify storage location: ___Secured with research project leaders or by Rochelle._____

ATTACHMENTS

Please **check** below all appendices that are attached as part of your application package:

[x] **Recruitment Materials**: A copy of any poster(s), flyer(s), advertisement(s), letter(s), telephone or other verbal script(s) used to recruit/gain access to participants.

[ ] **Information Letter and Consent Form(s)**. Used in studies involving interaction with participants (e.g. interviews, testing, etc.)

[ ] **Information/Cover Letter(s)**. Used in studies involving surveys or questionnaires.

[ ] Parent Information Letter and Permission Form for studies involving minors.

[x] **Materials**: A copy of all survey(s), questionnaire(s), interview questions, interview themes/sample questions for open-ended interviews, focus group questions, or any standardized tests used to collect data.

SIGNATURES OF RESEARCHERS

Emily Febrey — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

Lauren Ballantyne — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

Kate Richardson — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

James McGrath — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

Kara Movanon — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

Anika Riopel — March 2, 2016

_____ _____

Signature of Student Investigator(s) — Date

_____ _____

Signature of Student Investigator(s) — Date

FOR ENVIRONMENTAL PROGRAMMES USE ONLY:

Ethics proposal been checked for eligibility according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans

Signature Date

Appendix B: Email Invitation

Hello X,
We invite you to participate in a study on the proposed Sexton Bike Centre!
We are a group of Sustainability and Environmental Science students in the class 'Campus as a Living Laboratory' at Dalhousie University. As part of our course, we are conducting research on the proposed Sexton Bike Centre Design Proposal. Our study seeks to identify desirable features in a proposed bike centre that will maximize the effectiveness of the space for all users.
In order to do so we will conduct three focus groups which bring together various groups including: University staff and management; Dalhousie Bike Centre Board members and staff; and students and cycling community stakeholders. In these focus groups we will provide a questionnaire, as well as host a design charette, which is a community planning session to brainstorm ideas and generate collaborative design concepts.
We would like to extend an invitation to you to be a member of the X group.
Your involvement is dependant on your comfort level. All responses will remain confidential and used solely for the purpose of this research.
We will be hosting the focus group on March X, 2016 from X-X in X room of the Computer Science building. If you would like to participate please read the attached consent form, sign and then send back to us. Additionally, if you have further questions, or would like further clarification, please do not hesitate to email me back or contact the course instructor Tarah Wright at Tarah.Wright@dal.ca.
Thank you.
Sincerely,
Anika Riopel, James McGrath, Kate Richardson, Lauren Ballantyne, Emily Febrey, and Kara Martin

Appendix C: Consent Form

DALHOUSIE UNIVERSITY
Inspiring Minds
Faculty of Management

RESEARCH CONSENT FORM

We invite you to take part in a research project called “Sexton Bike Centre Design Proposal”. This study is being done by: Lauren Ballantyne, Emily Febrey, Kara Martin, James McGrath, Kate Richardson, Anika Riopel. We are Undergraduate student(s) at Dalhousie University in Halifax, Nova Scotia. We are doing this research for a class project in Campus as a Living Laboratory. The project is overseen by Dr. Tarah Wright. The information below tells you about our research and what you will be asked to do. It also tells you about any benefits, risks, inconveniences or discomforts you might experience. You can take part in this study if you are a Dalhousie Student, Dalhousie Bike Centre Board Member of Staff, Dalhousie University Staff, or a community cycling stakeholder. About 20 people will be taking part in this research.

To help us understand Bike Centre design elements, we will ask you to draw a layout of space including specific elements that you think would be useful in a new Bike Centre. Our research will host 3 Focus groups with various stakeholder groups to identify design elements necessary in a new bike centre. In this focus group we will a combine an open-ended questionnaire and a design charrette. A design charrette is a community planning session to brainstorm ideas and generate collaborative design concepts. After drawing individual designs, we will collaborate and create a collaborative plan, as well as create a priority list of design elements. Each participant’s involvement will depend on their level of comfort; however, we will ensure confidentiality of group results. Participants will benefit from collaborative group work and information sharing; the process should take no longer than 2 hours.

It is your decision whether or not you want to take part in this research project. Even if you do take part, you can leave the study at any time for any reason. There will be no negative consequences to yourself.

All information you give to members of our research team will be kept private. When we share our project findings in our group report and class presentation, we will only talk about group results. This means that it will not be possible for you to be identified, unless you wish to have your results tied to your name.

If you agree to participate in this research project, please fill out this form and email it back to our group (as seen below). We are happy to share our results with you by the end of the month, if you would like a copy of our final report

please indicate in your response email that you would like us to email it to you once complete.

I have read the explanation about this study. I understand what I am being asked to do and my questions about the study have been answered. I agree to take part in this study. I know that participating is my choice and that I can leave the study at any time.

_____ _____

PARTICIPANT'S SIGNATURE **DATE**

_____ _____

RESEARCHER'S SIGNATURE **DATE**

If you have any questions, comments, or concerns about your participation in this research project, please contact me, Anika Riopel, anika.riopel@dal.ca and (902) 802 9666, or my instructor, Tara Wright, Department of Environmental Science, at Tarah.Wright@dal.ca.

Appendix D: Facilitator Script

Preparation:

Arrive early; distribute question sheets (Appendix E, F, G) and pens. Have facilitator note taking sheet(s) (Appendix H) ready.

Confirm that each participant has completed a consent (Appendix C) form. These forms should have been submitted via email prior to the session. Bring additional forms in case participants have not completed them. Do not begin until all consent forms have been completed and submitted.

Brief In:

Thank you for participating in our study.

This study is being completed for SUST 3502: Campus as a Living Lab. The goal of this study is to research what design elements are priorities for bike community stakeholders at Dalhousie University Campuses (Halifax) in the creation of a new bike center on Sexton campus.

We will be collecting this information through multiple focus groups. The note takers are: *(introduce themselves).* They will collect data manually noting key themes or suggestions made. These notes will not include names or any identifying information. They will be available to participants to view at any point.

As well we would like to invite you, the participants, to also take notes. You have been provided with a sheet containing the discussion questions and a pencil, which you are invited to use to jot down notes, doodles or thoughts during the process. Please do not include your name. We will collect the information you wish to share at the end of the session.

If you have any questions or concerns please contact our instructor:
Dr. Tarah Wright, Department of Environmental Science, (902) 494-3683

Introductions

To get started we have a fun ice-breaking question! Please introduce yourself, your involvement in with the Bike Centre and answer if you could go on a coffee date with any historical person who would it be?

(Aim to break tension and create space for honest and comfortable responses. As the facilitator you can start the icebreaker with a silly answer to help create safe, fun & open space.)

Questions:

(Please follow the appropriate question sheet for your focus group (Appendix E, F or G), introduce questions, encourage conversation and take notes of themes and suggestions.)

Design Charrette:

(Please follow the instructions for the design charrette (Appendix I).)

Closing:

Thank you for participating in our study. We greatly value your time and impute.

Appendix E: Questionnaire

Sexton Bike Centre Design – SUST 3502

Research Question: What design elements are priorities for bike community stakeholders at Dalhousie University Campuses (Halifax) in the creation of a new bike center on Sexton campus.

If you have any questions or concerns please contact our instructor:
Dr. Tarah Wright, Department of Environmental Science, (902) 494-3683

I acknowledge that I consent to participate in the research study, and understand that my results will be kept anonymous.

---

1. What does the Dal Bike Centre offer Dalhousie University students, staff and the general community?

2. What services or programs do you think could be improved or changed?

3. How do you feel about the purposed Sexton Campus Bike Center?
    a. Please state your reasons:

4. What dimensions do you think the space should be?

5. What design elements do you think would be required for a new center?

6. Please prioritize these element in order of importance:

Appendix F : Design Charrette

FOCUS GROUP A, B & C

Drawing: each participant receives a white board marker and begins drawing their ideal bike centre, taking up to an hour for this part. Once drawing is complete, each participant is asked to create a priority list of design elements from the centre, in order of significance (1 through 5).

Sharing: each participant can share their design with the rest of the group, explaining elements and reasoning for including each, as well as going over priority list. ** Facilitator will take a photo of each design (keeping identity anonymous) and take notes.

Collaboration: participants will then come together to create a collaborative design that incorporates elements from individual drawings and priority lists. Negotiations will occur and members will have to discuss with each other how they identify final concepts.

Feedback: after collaborative design is complete, the facilitator will take an image and notes. Feed participant cookies. Provide contact info if they have any questions, give more details about the final project, and thank them for their time.

Appendix G: Facilitator Notes

Date:
Time:
Participants:
Facilitator:
Location:

General Themes and Key Concepts:

Appendix H: Original Funding letter

DSUSO Funding Application C

Applications from Groups, Campaigns of Projects
No Funding Request Limit

The DSUSO Green Initiatives fund is designed to empower Dalhousie students who pay DSU levy fees to pursue projects and opportunities that benefit the greater Dalhousie Community. While the DSUSO seeks to fund as many projects as possible, priority will be given to applications that prove the greatest overall return on investment. Potential benefits include, but are not limited to: education of applicants and others; environmental and social benefits; Carbon emission or waste reduction; and community engagement.

1. Name of any DSU members applying for grant, and identify primary contact: Anika Riopel
2. Student Number of Primary Contact: B00624448
3. Mailing Address of Primary Contact: 6320 York St
4. Phone Number of Primary Contact: 902 802 9666
5. E-mail Address of Primary Contact: anika.riopel.com
6. Total Amount Requested: $100

Budget	
Survey Incentive Prize in Dal Dollars	4 x $25
Total:	$100

7. Describe your project, event or trip, and outline how the objectives of your project coincide with DSUSO's mission to promote environmental, social, and economic sustainability
As a component for our SUST 3502: Campus as a Living Lab class, our group plans to conduct a survey investigating student and faculty interest in a proposed Sexton bike centre. Cycling and active transportation are important component for a sustainable future. The proposed centre will provide free rentals and services for both students and staff. It would deliver access to active transportation regardless of social or economic status. Therefore, the centre will meet DSUSO's mission to promote environmental, social, and economic sustainability. Conducting research into the student and staff interest and required services will help the centre be developed to meet real needs.
The funding will be used to provide incentive to for students and staff to complete our survey. We offer 4 chances to win $25 in Dal dollars.
8. Please describe any additional benefits to the others, the university, community, or beyond that will result from your application.
Conducting research into the interest and needs of students and staff will allow the centre to be better developed to meet needs. This means that funds and energy will be focused on needed and necessary services.
The centre will build a stronger cycling community in Halifax. Cycling is an important active transportation option that not only reduces the general carbon footprint but also decreases traffic congestion in the community at large.
9. Provide a timeline for your project/event/trip:

Timeline	
February 30th	Literature Review and Survey constructed
March 1st	Ethics review
March 3rd – 13th	Survey conducted

March 14th	Prizes drawn
March 14th - 28th	Survey analysed
April 11th	Final Report

10. How will DSUSO be promoted by your project/trip/event? (E.g. logo placement on advertising, verbal acknowledgement, etc.).
DSUSO will be acknowledged in our final report and on the survey. We will provide DSUSO with photos of each winner receiving their prize dal dollars. (*With consent of participants)
11. Additional Details:

a. Please list organizations and individuals that will be directly affected by this project and outline any formal agreements or levels of support that have been established.

DalBike Centre
This research has the full support of the Dal Bike Centre board. Our team has two Bike Centre board members: Anika Riopel and Kara Martin, the later being the Vice-President. The board is particularly interested in collecting information around the communities needed bicycle services.
Office of Sustainability
Rochelle Owens, the director of the Office of Sustainability, is fully supportive of this research. She will use the collected information to back her in seeking space and financial support from Dalhousie University. Owens will be consulted regarding survey questions.

b. Is this a new project, or an existing one?

The Sexton Bike Centre is a current project being proposed by the Office of Sustainability and the Dal Bike Centre, our research will be in conjunction.

c. By whom will the funds be managed?

Anika Riopel will manage the funds. She will distribute the prizes immediately after the draw.

d. Is the project intended to continue after the funding period?

Our research will conclude with the term, however the bike centre and the Office of Sustainability will continue with developing the larger project.

Appendix I: Funding Revised

DSUSO Funding Application C

Applications from Groups, Campaigns of Projects
No Funding Request Limit

The DSUSO Green Initiatives fund is designed to empower Dalhousie students who pay DSU levy fees to pursue projects and opportunities that benefit the greater Dalhousie Community. While the DSUSO seeks to fund as many projects as possible, priority will be given to applications that prove the greatest overall return on investment. Potential benefits include, but are not limited to: education of applicants and others; environmental and social benefits; Carbon emission or waste reduction; and community engagement.

1. Name of any DSU members applying for grant, and identify primary contact: Anika Riopel
2. Student Number of Primary Contact: B00624448
3. Mailing Address of Primary Contact: 6320 York St
4. Phone Number of Primary Contact: 902 802 9666
5. E-mail Address of Primary Contact: anika.riopel.com
6. Total Amount Requested: $100

Budget	
Printing	20x $0.10 = $2.00
Food and Coffee	3 x $17.66 = $53
Focus Group Incentive Prizes in Dal Dollars	3 x $ 15 = $45
Total:	$100

7. Describe your project, event or trip, and outline how the objectives of your project coincide with DSUSO's mission to promote environmental, social, and economic sustainability

As a component for our SUST 3502: Campus as a Living Lab class, our group plans to conduct three Focus Groups investigating design element priorities of key stakeholders for the purposed Sexton Bike Centre. Cycling and active transportation are important component for a sustainable future. The proposed centre will provide free rentals and services for both students and staff. It would deliver access to active transportation regardless of social or economic status. Therefore, the centre will meet DSUSO's mission to promote environmental, social, and economic sustainability. Conducting research into the student and staff interest and required services will help the centre be developed to meet real needs.

The funding will be used to provide materials, food and incentives for participants of the Focus Groups. According to A. Crossman in a Research Methods paper, focus groups preform best when provide with food and beverages. Our budget also provides incentives for students and staff to participate in our focus group. This is important because we are conducting the focus groups during the final month of the winter semester. We offer each group the chance to win $15 in Dal dollars.

8. Please describe any additional benefits to the others, the university, community, or beyond that will result from your application.

Conducting research into the interest and needs of students and staff will allow the centre to be better developed to meet needs. This means that funds and energy will be focused on needed and necessary services.

The centre will build a stronger cycling community in Halifax. Cycling is an important active transportation option that not only reduces the general carbon footprint but also decreases traffic congestion in the community at large.

9. Provide a timeline for your project/event/trip:

Timeline	
February 30th	Literature Review
March 1st	Ethics review
March 6th – 22nd	Focus Groups
March 14th	Prizes drawn
March 14th - 28th	Data analysed
April 11th	Final Report

10. How will DSUSO be promoted by your project/trip/event? (E.g. logo placement on advertising, verbal acknowledgement, etc.).
DSUSO will be acknowledged in our final report and on the survey. We will provide DSUSO with photos of each winner receiving their prize dal dollars. (*With consent of participants)
11. Additional Details:

a. Please list organizations and individuals that will be directly affected by this project and outline any formal agreements or levels of support that have been established.

DalBike Centre
This research has the full support of the Dal Bike Centre board. Our team has two Bike Centre board members: Anika Riopel and Kara Martin, the later being the Vice-President. The board is particularly interested in collecting information around the communities needed bicycle services.
Office of Sustainability
Rochelle Owens, the director of the Office of Sustainability, is fully supportive of this research. She will use the collected information to back her in seeking space and financial support from Dalhousie University. Owens will be consulted regarding survey questions.

b. Is this a new project, or an existing one?

The Sexton Bike Centre is a current project being proposed by the Office of Sustainability and the Dal Bike Centre, our research will be in conjunction.

c. By whom will the funds be managed?

Anika Riopel will manage the funds. She will distribute the prizes immediately after the draw.

d. Is the project intended to continue after the funding period?

Our research will conclude with the term, however the bike centre and the Office of Sustainability will continue with developing the larger project.

Appendix J: Design Charrettes

Images of various design charrettes from all three focus groups. Not all images were included due to redundancy of including messy, illegible drawings.